



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,787	01/11/2005	Kenichi Miyoshi	L9289.04193	2438
24257	7590	02/16/2011		
Dickinson Wright PLLC James E. Ledbetter, Esq. International Square 1875 Eye Street, NW., Suite 1200 WASHINGTON, DC 20006			EXAMINER MIAH, LITON	
			ART UNIT 2617	PAPER NUMBER
			MAIL DATE 02/16/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,787

Applicant(s)

MIYOSHI ET AL.

Examiner

LITON MIAH

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 24, 2010 has been entered. **Claims 20-35** are now pending in the present application.

Response to Arguments

2. Applicant's arguments, filed on November 24, 2010, with respect to **claims 20, 30, 34, and 35** have been considered but are moot in view of the new ground(s) of rejection necessitated by the new limitations added to claims **20, 30, 34, and 35**. See the below rejection of claims **20-37** for the relevant citations found in Ikeda, Khan, Miki, Hershey and Whitehill disclosing the newly added limitations.

Claim Objections

3. Claim 20-37 is objected under 37 C.F.R. 1.75 because of the following informalities:

In claim 20 line 15, "a new transmission" seems to refer back to "a new transmission" recited at line 14. If this is true, it is suggested to change "a transmission" to "the transmission". It is same for claims 30 and 34-35. Appropriate correction is required.

In claim 20 line 15, "a retransmission" seems to refer back to "a retransmission" recited at line 14. If this is true, it is suggested to change "a retransmission" to "the retransmission". It is same for claims 21, 24, 27, 28, 30, 31 and 34-35. Appropriate correction is required.

Claims 22, 23, 25, 26, 29, 32, 33, 36 and 37 are objected since they depend from claim 20 and 30. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 20, 29, 30, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 2002/0058593), hereinafter 'Ikeda' in view of Khan et al (US 2002/0064167), hereinafter 'Khan' and further in view of Miki et al (US 2002/0046379) hereinafter 'Miki'.

For claims 20 and 34, Ikeda discloses a base station apparatus/radio receiving method using an automatic repeat request (ARQ) procedure, said base station apparatus comprising:
a reception unit configured to receive data from a terminal apparatus in an uplink **(paragraph 0010 and 0047);**
an error detection unit configured to perform an error detection for the data by using an error- detecting code **(paragraph 0011 and 0047);** and
a transmission unit configured to transmit, to the terminal apparatus: (i) an acknowledgment signal, when said error detector detects no error **(paragraph 0005 and 0015);**
(ii) a negative acknowledgement (NACK) signal when said error detection unit detects

an error **(paragraph 0005 and 0015)**; and

(iii) a control signal pairing with the ACK signal or the NACK signal, for governing operations, which are performed in the terminal apparatus, including a retransmission, and no transmission performed in of a new transmission and a retransmission **(paragraph 0004, 0020 and 0064)**.

Ikeda fails to explicitly disclose that the operation of the governing operation including a new transmission. In the same field of endeavor, **Khan** discloses a control signal, pairing with the ACK signal or NACK signal, for governing operations, which are performed in the terminal apparatus, including a new transmission **(See at least abstract; paragraph 0010 and 0017)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda with the governing operations including a new transmission as taught in Khan reference to efficiently utilize channel resources while allowing for scheduling flexibility.

Ikeda and Khan fails to explicitly disclose that a control signal, which is a different signal from the ACK signal and the NACK signal. In the same field of endeavor, **Miki** discloses a control signal, which is a different signal from the ACK signal and the NACK signal, pairing with the ACK signal or the NACK signal, for governing operations **(See at least paragraph 0077, 0088-0089 and 0106; Miki discloses that both control signal and ACK/NACK signal are used for packet transmission, whereby both signal combined together for determining the current communication situation)**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda and Khan with Miki reference so that site diversity is performed such that

signals from plurality of base stations are transmitted and received in a time overlapped manner, thus it would improve the transmission performance by effectively utilizing the ACK/NACK signal in ARQ.

For claim 29, Ikeda further discloses a reception unit configured to receive an acknowledgment/negative-acknowledgment (ACK/NACK) signal and a control signal which are transmitted from the base station apparatus according to claim 20 **(paragraph 0004-0005 and 0015); and**

a transmission unit configured to transmit data, based on the ACK/NACK signal and the control signal **(paragraph 0004-0005 and 0015).**

For claims 30 and 35, Ikeda discloses a terminal apparatus/radio transmitting method using an automatic repeat request (ARQ) the terminal apparatus comprising: a transmission unit configured to perform operations, including a retransmission and no transmission of a new transmission and a retransmission to a base station apparatus **(paragraph 0004, 0020 and 0064); and** a reception unit configured to receive an acknowledgment/negative-acknowledgment (ACK/NACK) signal, which is transmitted based on a result of an error detection performed by using an error-detecting, code in the base station apparatus, and a control signal which is transmitted from the base station apparatus **(paragraph 0004-0005, 0015 and 0064);** wherein the operations are governed based on the ACK/NACK signal and the control signal **(paragraph 0004, 0020 and 0064).**

Ikeda fails to explicitly disclose that the operation of the governing operation including a new transmission. In the same field of endeavor, **Khan** discloses a control signal, pairing with the ACK signal or NACK signal, for governing operations including a new transmission performed in the terminal apparatus (**See at least abstract; paragraph 0010 and 0017**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda with the governing operations including a new transmission as taught in Khan reference to efficiently utilize channel resources while allowing for scheduling flexibility.

Ikeda and Khan fails to explicitly disclose that a control signal, which is a different signal from the ACK signal and the NACK signal. In the same field of endeavor, **Miki** discloses a control signal which is transmitted from the base station apparatus and is a different signal from the ACK/NACK signal, and which is for governing the operations (**See at least paragraph 0077, 0088-0089 and 0106; Miki discloses that both control signal and ACK/NACK signal are used for packet transmission, whereby both signal combined together for determining the current communication situation**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda and Khan with Miki reference so that site diversity is performed such that signals from plurality of base stations are transmitted and received in a time overlapped manner, thus it would improve the transmission performance by effectively utilizing the ACK/NACK signal in ARQ.

8. Claims 21-24 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 2002/0058593), hereinafter 'Ikeda' in view of Khan et al (US 2002/0064167), hereinafter 'Khan', further in view of Miki et al (US 2002/0046379) hereinafter 'Miki' and further in view of Hershey (US 6,662,330).

For claims 21 and 31, Ikeda fails to explicitly disclose that the operation that resumes transmission. In the same field of endeavor, **Hershey** discloses the control signal is for governing the operation that the base station apparatus resumes a retransmission after performing no retransmission (**See at least col. 1 [ln. 25-49]**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the governing operations including to resume transmission as taught in Hershey reference to reduce the number of required retransmission.

For claims 22 and 32, Ikeda fails to explicitly disclose that the operation that resumes transmission. In the same field of endeavor, **Hershey** discloses the control signal is for governing the operations that the base station apparatus performs no transmission and keeps data in a buffer (**See at least col. 1 [ln. 25-49]**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the governing operations including to resume transmission as taught in Hershey reference to reduce the number of required retransmission.

For claims 23 and 33, Ikeda fails to explicitly disclose that the operation that resumes transmission. In the same field of endeavor, **Hershey** discloses the control signal is for governing the operations that the base station apparatus suspends a transmission and performs no transmission (**See at least col. 1 [ln. 25-49]**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the governing operations including to resume transmission as taught in Hershey reference to reduce the number of required retransmission.

For claim 24, Ikeda fails to explicitly disclose that the operation that resumes transmission. In the same field of endeavor, **Hershey** discloses the control signal is a suspend signal, the suspend signal for governing the operations that the base station apparatus suspends a transmission and performs no transmission, or a resume signal, the resume signal for governing the operation that the radio transmitting apparatus resumes a transmission after performing no transmission (**See at least col. 1 [ln. 25-49]**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the governing operations including to resume transmission as taught in Hershey reference to reduce the number of required retransmission.

9. Claims 25-28, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 2002/0058593), hereinafter 'Ikeda' in view of Khan et al (US 2002/0064167), hereinafter 'Khan', further in view of Miki et al (US 2002/0046379) hereinafter 'Miki' and further in view of Whitehill et al (US 2002/0191573)), hereinafter 'Whitehill'.

For claim 25, Ikeda fails to explicitly disclose that a channel quality measurer. In the same field of endeavor, **Whitehill** discloses a channel quality measurement unit configured to measure a channel quality between the terminal apparatus and the base station apparatus, wherein the transmission unit transmits the control signal based on the channel quality (**See at least paragraph 0054**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the channel quality measurer as taught in Whitehill reference to enable a network to deliver a multimedia content with optimum speed and reliability.

For claim 26, Ikeda fails to explicitly disclose that a channel quality measurer. In the same field of endeavor, **Whitehill** discloses the control signal is for governing the operations that the terminal apparatus performs no transmission and keeps data in a buffer when the channel quality is equal to or less than a threshold (**See at least paragraph 0054**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the channel quality measurer as taught in Whitehill reference to enable a network to deliver a multimedia

content with optimum speed and reliability.

For claim 27, Ikeda fails to explicitly disclose that a channel quality measurer. In the same field of endeavor, **Whitehill** discloses the control signal is for governing the operations that the terminal apparatus performs no transmission and keeps data in a buffer when the channel quality is equal to or less than a threshold, and the control signal is for governing the operation that the terminal apparatus resumes a retransmission after performing no retransmission when the channel quality become greater than the threshold (**See at least paragraph 0054**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the channel quality measurer as taught in Whitehill reference to enable a network to deliver a multimedia content with optimum speed and reliability.

For claim 28, Ikeda further discloses the base station apparatus performs:

(i) transmitting an ACK signal when said error detection unit detects no error for the data (**paragraph 0015**).

Ikeda fails to explicitly disclose that a channel quality measurer. In the same field of endeavor, **Whitehill** discloses (ii) transmitting a NACK signal when said error detection unit detects an error for the data and the channel quality is greater than a threshold; (iii) transmitting the control signal for governing the operations that the terminal apparatus performs no transmission and keeps data in a buffer when said error detection unit detects an error for the data and the channel quality is equal to or less than the threshold; and (iv) transmitting the control signal for governing the operation

that the terminal apparatus resumes a retransmission after performing no retransmission when the channel quality become greater than the threshold (**See at least paragraph 0029 and 0054**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the channel quality measurer as taught in Whitehill reference to enable a network to deliver a multimedia content with optimum speed and reliability.

For claim 36, Ikeda fails to explicitly disclose that a channel quality measurer. In the same field of endeavor, **Whitehill** discloses a channel quality measurement unit, wherein the transmission unit transmits a NACK signal when said error detection unit detects an error for the data and a channel quality measurement unit determines that the channel quality is greater than a threshold (**See at least paragraph 0054**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the channel quality measurer as taught in Whitehill reference to enable a network to deliver a multimedia content with optimum speed and reliability.

For claim 37, Ikeda fails to explicitly disclose that a channel quality measurer. In the same field of endeavor, **Whitehill** discloses a channel quality measurer, wherein the control signal governs operations that: the terminal apparatus performs no transmission and keeps data in a buffer when said error detection unit detects an error for the data and a channel quality measurement unit determines that the channel quality is equal to

or less than a first threshold and greater than a second threshold, the terminal apparatus resumes a transmission after performing no transmission when the channel quality measurement unit determines that the channel quality becomes greater than the first threshold, and the terminal apparatus stops and reschedules a transmission after performing no transmission when the channel quality measurement unit determines that the channel quality becomes equal to or less than the second threshold (**See at least paragraph 0029 and 0054**). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Ikeda, Khan and Miki with the channel quality measurer as taught in Whitehill reference to enable a network to deliver a multimedia content with optimum speed and reliability.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LITON MIAH whose telephone number is (571)270-3124. The examiner can normally be reached on Monday through Friday 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LM
/Patrick N. Edouard/
Supervisory Patent Examiner, Art Unit 2617